

SEQUENCE LISTING

<110> Yan, Riqiang  
Tomasselli, Alfredo G.  
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Emmons, Thomas L.  
Bienkowski, Mike J.  
Heinrikson, Robert L.

<120> SUBSTRATES AND ASSAYS FOR BETA-SECRETASE ACTIVITY

<130> 29915/00281

<140> 60/219,795

<141> 2000-07-19

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<170> PatentIn Ver. 2.0

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Tyr Arg Tyr Gln Ser His Asp Tyr Ala Phe Ser Ser Val Glu Lys Leu  
1 5 10 15

Leu His Ala Leu Gly Gly Cys  
20

<210> 31  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 31  
Leu Val Asn Met Ala Glu Gly Asp  
1 5

<210> 32  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 32  
Arg Gly Ser Met Ala Gly Val Leu  
1 5

<210> 33  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
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peptide sequence

<400> 33  
Gly Thr Gln His Gly Ile Arg Leu  
1 5

<210> 34  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 34  
Ser Ser Asn Phe Ala Val Gly Ala  
1 5

<210> 35  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
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<400> 35  
Gly Leu Ala Tyr Ala Glu Ile Ala  
1 5

<210> 36  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
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peptide sequence

<400> 36  
His Leu Cys Gly Ser His Leu Val  
1 5

<210> 37  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 37  
Cys Gly Glu Arg Gly Phe Phe Tyr  
1 5

<210> 38  
<211> 7  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 38  
Gly Val Leu Leu Ser Arg Lys  
1 5

<210> 39  
<211> 7  
<212> PRT  
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<220>  
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peptide sequence

<400> 39  
Val Gly Ser Gly Val Leu Leu  
1 5

<210> 40  
<211> 5  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 40  
Val Gly Ser Gly Val  
1 5

<210> 41  
<211> 12  
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<220>  
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peptide sequence

<220>  
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<222> (9)  
<223> Xaa= cysteic acid

<400> 41  
Lys Val Glu Ala Leu Tyr Leu Val Xaa Gly Glu Arg  
1 5 10

<210> 42  
<211> 15  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: synthetic  
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<400> 42  
Trp Arg Arg Val Glu Ala Leu Tyr Leu Val Glu Gly Glu Arg Lys  
1 5 10 15

<210> 43  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 43  
Lys Val Glu Ala Asn Tyr Leu Val Glu Gly Glu Arg Lys Lys  
1 5 10

<210> 44  
<211> 4  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: synthetic  
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<400> 44  
Met Leu Leu Leu  
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<210> 45  
<211> 6  
<212> PRT  
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<220>  
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<400> 45  
Asp Ala Ala His Pro Gly  
1 5

<210> 46  
<211> 14  
<212> PRT  
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<220>  
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<400> 46  
Lys Val Glu Ala Asn Tyr Asp Val Glu Gly Glu Arg Lys Lys  
1 5 10

<210> 47  
<211> 14  
<212> PRT  
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<220>  
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<400> 47  
Lys Val Glu Ala Asn Leu Ala Val Glu Gly Glu Arg Lys Lys  
1 5 10

<210> 48  
<211> 14



<212> PRT  
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<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 48  
Lys Val Glu Ala Leu Tyr Ala Val Glu Gly Glu Arg Lys Lys  
1 5 10

<210> 49  
<211> 8  
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<220>  
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<223> Xaa = E, G, I, D, T, cysteic acid or S

<400> 49  
Xaa Ala Asn Tyr Glu Val Glu Phe  
1 5

<210> 50  
<211> 8  
<212> PRT  
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<220>  
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peptide sequence

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<222> (2)  
<223> Xaa= A, V, I, S, H, Y, T or F

<400> 50  
Glu Xaa Asn Tyr Glu Val Glu Phe  
1 5

<210> 51  
<211> 8  
<212> PRT  
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<220>  
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<220>  
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<222> (3)  
<223> Xaa= N, L, K, S, G, T, D, A, Q, or E

<400> 51  
Glu Ala Xaa Tyr Glu Val Glu Phe  
1 5

<210> 52  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
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<222> (4)  
<223> Xaa= Y, L, M, Nle, F or H

<400> 52  
Glu Ala Asn Xaa Glu Val Glu Phe  
1 5

<210> 53  
<211> 8  
<212> PRT  
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<220>  
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peptide sequence

<220>  
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<222> (5)  
<223> Xaa= E, A, D, M, Q, S or G

<400> 53  
Glu Ala Asn Tyr Xaa Val Glu Phe  
1 5

<210> 54  
<211> 8  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> SITE  
<222> (6)  
<223> Xaa= V, A, N, T, L, F or S

<400> 54  
Glu Ala Asn Tyr Glu Xaa Glu Phe  
1 5

<210> 55

<211> 8  
<212> PRT  
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<220>  
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peptide sequence

<220>  
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<223> Xaa= E, G, F, H, cysteic acid or S

<400> 55  
Glu Ala Asn Tyr Glu Val Xaa Phe  
1 5

<210> 56  
<211> 8  
<212> PRT  
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<220>  
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peptide sequence

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<223> Xaa= F, W, G, A, H, P, G, N, S or E

<400> 56  
Glu Ala Asn Tyr Glu Val Glu Xaa  
1 5

<210> 57  
<211> 8  
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peptide sequence

<220>  
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<400> 57  
Xaa Val Leu Leu Ala Ala Gly Trp  
1 5

<210> 58  
<211> 8  
<212> PRT  
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<220>  
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peptide sequence

<220>  
<221> SITE  
<222> (2)  
<223> Xaa= A, V, I, S, H, Y, T or F

<400> 58  
Gly Xaa Leu Leu Ala Ala Gly Trp  
1 5

<210> 59  
<211> 8  
<212> PRT  
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<220>  
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peptide sequence

<220>  
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<223> Xaa= N, L, K, S, G, T, D, A, Q or E

<400> 59  
Gly Val Xaa Leu Ala Ala Gly Trp  
1 5

<210> 60  
<211> 8  
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<220>  
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<220>  
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<223> Xaa= Y, L, M, Nle, F or H

<400> 60  
Gly Val Leu Xaa Ala Ala Gly Trp  
1 5

<210> 61  
<211> 8  
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peptide sequence

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<223> Xaa= E, A, D, M, Q, S or G

<400> 61  
Gly Val Leu Leu Xaa Ala Gly Trp  
1 5

<210> 62  
<211> 8  
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<223> Xaa= V, A, N, T, L, F or S

<400> 62  
Gly Val Leu Leu Ala Xaa Gly Trp  
1 5

<210> 63  
<211> 8  
<212> PRT  
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peptide sequence

<220>  
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<222> (7)  
<223> Xaa= E, G, F, H, cysteic acid or S

<400> 63  
Gly Val Leu Leu Ala Ala Xaa Trp  
1 5

<210> 64  
<211> 8  
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<220>  
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peptide sequence

<220>  
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<222> (8)  
<223> Xaa= F, W, G, A, H, P, G, N or S

<400> 64  
Gly Val Leu Leu Ala Ala Gly Xaa  
1 5

<210> 65

<211> 8  
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peptide sequence

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<400> 65  
Xaa Ile Lys Met Asp Asn Phe Gly  
1 5

<210> 66  
<211> 8  
<212> PRT  
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<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
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<223> Xaa= A, V, I, S, H, Y, T or F

<400> 66  
Ile Xaa Lys Met Asp Asn Phe Gly  
1 5

<210> 67  
<211> 8  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
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<223> Xaa= N, L, K, S, G, T, D, A, Q or E

<400> 67  
Ile Ile Xaa Met Asp Asn Phe Gly  
1 5

<210> 68  
<211> 8  
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<220>  
<223> Description of Artificial Sequence: synthetic

peptide sequence

<220>  
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<223> Xaa= Y, L, M, Nle, F or H

<400> 68  
Ile Ile Lys Xaa Asp Asn Phe Gly  
1 5

<210> 69  
<211> 8  
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peptide sequence

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<400> 69  
Ile Ile Lys Met Xaa Asn Phe Gly  
1 5

<210> 70  
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peptide sequence

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<400> 70  
Ile Ile Lys Met Asp Xaa Phe Gly  
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<210> 71  
<211> 8  
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peptide sequence

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<222> (7)

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<400> 71

Ile Ile Lys Met Asp Asn Xaa Gly  
1 5

<210> 72

<211> 8

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<220>

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peptide sequence

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<222> (8)

<223> Xaa= F, W, G, A, H, P, G, N or S

<400> 72

Ile Ile Lys Met Asp Asn Phe Xaa  
1 5

<210> 73

<211> 10

<212> PRT

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<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>

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<222> (1)

<223> Xaa= E, G, I, D, T, cysteic acid or S

<400> 73

Xaa Ser Ser Asn Leu Glu Met Thr His Ala  
1 5 10

<210> 74

<211> 10

<212> PRT

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<222> (2)

<223> Xaa= A, V, I, S, H, Y, T or F

<400> 74

Asp Xaa Ser Asn Leu Glu Met Thr His Ala  
1 5 10



<210> 75  
<211> 10  
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<400> 75  
Asp Ser Xaa Asn Leu Glu Met Thr His Ala  
1 5 10

<210> 76  
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peptide sequence

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<223> Xaa= Y, L, M, Nle, F or H

<400> 76  
Asp Ser Ser Xaa Met Thr His Ala  
1 5

<210> 77  
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<400> 77  
Asp Ser Ser Asn Leu Glu Xaa Thr His Ala  
1 5 10

<210> 78  
<211> 10  
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<223> Description of Artificial Sequence: synthetic peptide sequence

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<222> (8)

<223> Xaa= V, A, N, T, L, F or S

<400> 78

Asp Ser Ser Asn Leu Glu Met Xaa His Ala  
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<210> 79

<211> 9

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<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<220>

<221> SITE

<222> (8)

<223> Xaa= E, G, F, H, cysteic acid or S

<400> 79

Asp Ser Asn Leu Glu Met Thr Xaa Ala  
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<210> 80

<211> 9

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<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

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<222> (9)

<223> Xaa= F, W, G, A, H, P, G, N or S

<400> 80

Asp Ser Asn Leu Glu Met Thr His Xaa  
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<210> 81

<211> 8

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<220>

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<222> (1)

<223> Xaa= E, G, I, D, T, cysteic acid or S

<220>

<221> SITE

<222> (7)

<223> Xaa= cysteic acid

<400> 81

Xaa His Gly Phe Gln Leu Xaa His

1

5

<210> 82

<211> 8

<212> PRT

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<220>

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<220>

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<222> (2)

<223> Xaa= A, V, I, S, H, Y, T or F

<220>

<221> SITE

<222> (7)

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<400> 82

Thr Xaa Gly Phe Gln Leu Xaa His

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5

<210> 83

<211> 8

<212> PRT

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<223> Xaa= N, L, K, S, G, T, D, A, Q or E

<220>

<221> SITE

<222> (7)

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<400> 83

Thr His Xaa Phe Gln Leu Xaa His

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5

<210> 84

<211> 8

<212> PRT

<213> Artificial Sequence

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<221> SITE

<222> (4)

<223> Xaa= Y, L, M, Nle, F or H

<220>

<221> SITE

<222> (7)

<223> Xaa= cysteic acid

<400> 84

Thr His Gly Xaa Gln Leu Xaa His  
1 5

<210> 85

<211> 8

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<223> Xaa= E, A, D, M, Q, S or G

<220>

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<222> (7)

<223> Xaa= cysteic acid

<400> 85

Thr His Gly Phe Xaa Leu Xaa His  
1 5

<210> 86

<211> 8

<212> PRT

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<220>

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<220>

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<222> (6)

<223> Xaa= V, A, N, T, L, F or S

<220>

<221> SITE

<222> (7)

<223> Xaa= cysteic acid

<400> 86  
Thr His Gly Phe Gln Xaa Xaa His  
1 5

<210> 87  
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<220>  
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peptide sequence

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<400> 87  
Thr His Gly Phe Gln Leu Xaa His  
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<210> 88  
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<223> Xaa= cysteic acid

<220>  
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<223> Xaa= F, W, G, A, H, P, G, N or S

<400> 88  
Thr His Gly Phe Gln Leu Xaa Xaa  
1 5

<210> 89  
<211> 8  
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<220>  
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<400> 89

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Xaa Tyr Thr His Ser Phe Ser Pro  
1 5

<210> 90  
<211> 8  
<212> PRT  
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<220>  
<221> SITE  
<222> (1)  
<223> Xaa= cysteic acid

<220>  
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<222> (2)  
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<400> 90  
Xaa Xaa Thr His Ser Phe Ser Pro  
1 5

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<211> 8  
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peptide sequence

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<222> (1)  
<223> Xaa= cysteic acid

<220>  
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<222> (3)  
<223> Xaa= N, L, K, S, G, T, D, A, Q or E

<400> 91  
Xaa Tyr Xaa His Ser Phe Ser Pro  
1 5

<210> 92  
<211> 8  
<212> PRT  
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<220>  
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peptide sequence

<220>  
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<222> (1)  
<223> Xaa= cysteic acid

<220>  
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<223> Xaa= Y, L, M, Nle, F or H

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Xaa Tyr Thr Xaa Ser Phe Ser Pro  
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<210> 93  
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<220>  
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peptide sequence

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<223> Xaa= cysteic acid

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<223> Xaa= E, A, D, M, Q, S or G

<400> 93  
Xaa Tyr Thr His Xaa Phe Ser Pro  
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<210> 94  
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peptide sequence

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<400> 94  
Xaa Tyr Thr His Ser Xaa Ser Pro  
1 5

<210> 95  
<211> 8

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<212> PRT  
<213> Artificial Sequence

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<220>  
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<223> Xaa= cysteic acid

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Xaa Tyr Thr His Ser Phe Xaa Pro  
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<210> 96  
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peptide sequence

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<400> 96  
Xaa Tyr Thr His Ser Phe Ser Xaa  
1 5

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peptide sequence

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<220>  
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<223> Xaa= any amino acid

<220>

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<223> Xaa= any amino acid

<400> 97

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<210> 98

<211> 8

<212> PRT

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<220>

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peptide sequence

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<223> Xaa= any amino acid

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<223> Xaa= any amino acid

<400> 98

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peptide sequence

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<220>

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<210> 100

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<220>

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<210> 101

<211> 8

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<210> 103

<211> 8

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<222> (7)

<223> Xaa= E, G, F, H, cysteic acid or S

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<210> 104

<211> 8

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<210> 113  
<211> 9  
<212> PRT  
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<210> 114  
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<400> 114  
Asp Tyr Lys Asp Asp Asp Lys  
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<210> 115  
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<400> 115  
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Trp

<210> 116  
<211> 17  
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Lys

<210> 117



<211> 11  
<212> PRT  
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<223> Description of Artificial Sequence: synthetic  
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<210> 118  
<211> 22  
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<220>  
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<400> 118  
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Leu His Leu Gly Gly Cys  
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<211> 22  
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Leu His Leu Gly Gly Cys  
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<210> 121  
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<211> 363  
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<213> Homo sapiens

<220>  
<223> galactosyltransferase

<400> 123  
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20 25 30

Glu Lys Val Asp Thr Gln Pro Asn Val Leu His Asn Asp Pro His Ala  
35 40 45

Arg His Ser Asp Asp Asn Gly Gln Asn His Leu Glu Gly Gln Met Asn  
50 55 60

Phe Asn Ala Asp Ser Ser Gln His Lys Asp Glu Asn Thr Asp Ile Ala  
65 70 75 80

Glu Asn Leu Tyr Gln Lys Val Arg Ile Leu Cys Trp Val Met Thr Gly  
85 90 95

Pro Gln Asn Leu Glu Lys Lys Ala Lys His Val Lys Ala Thr Trp Ala  
100 105 110

Gln Arg Cys Asn Lys Val Leu Phe Met Ser Ser Glu Glu Asn Lys Asp  
115 120 125

Phe Pro Ala Val Gly Leu Lys Thr Lys Glu Gly Arg Asp Gln Leu Tyr  
130 135 140

Trp Lys Thr Ile Lys Ala Phe Gln Tyr Val His Glu His Tyr Leu Glu  
145 150 155 160

Asp Ala Asp Trp Phe Leu Lys Ala Asp Asp Thr Tyr Val Ile Leu  
165 170 175

Asp Asn Leu Arg Trp Leu Leu Ser Lys Tyr Asp Pro Glu Glu Pro Ile  
180 185 190

Tyr Phe Gly Arg Arg Phe Lys Pro Tyr Val Lys Gln Gly Tyr Met Ser  
195 200 205

Gly Gly Ala Gly Tyr Val Leu Ser Lys Glu Ala Leu Lys Arg Phe Val  
210 215 220

Asp Ala Phe Lys Thr Asp Lys Cys Thr His Ser Ser Ser Ile Glu Asp  
225 230 235 240

Leu Ala Leu Gly Arg Cys Met Glu Ile Met Asn Val Glu Ala Gly Asp  
245 250 255

Ser Arg Asp Thr Ile Gly Lys Glu Thr Phe His Pro Phe Val Pro Glu  
260 265 270

His His Leu Ile Lys Gly Tyr Leu Pro Arg Thr Phe Trp Tyr Trp Asn  
275 280 285

Tyr Asn Tyr Tyr Pro Pro Val Glu Gly Pro Gly Cys Cys Ser Asp Leu  
290 295 300

Ala Val Ser Phe His Tyr Val Asp Ser Thr Thr Met Tyr Glu Leu Glu  
305 310 315 320

Tyr Leu Val Tyr His Leu Arg Pro Tyr Gly Tyr Leu Tyr Arg Tyr Gln  
325 330 335

Pro Thr Leu Pro Glu Arg Ile Leu Lys Glu Ile Ser Gln Ala Asn Lys  
340 345 350

Asn Glu Asp Thr Lys Val Lys Leu Gly Asn Pro  
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<210> 124

<211> 405

<212> PRT

<213> Homo sapiens

<220>

<223> Homo sapiens sialyltransferase 1

<400> 124

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20 25 30

Tyr Tyr Asp Ser Phe Lys Leu Gln Thr Lys Glu Phe Gln Val Leu Lys

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Ser	Leu	Gly	Lys	Leu	Ala	Met	Gly	Ser	Asp	Ser	Gln	Ser	Val	Ser	Ser
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Ser	Ser	Thr	Gln	Asp	Pro	His	Arg	Gly	Arg	Gln	Thr	Leu	Gly	Ser	Leu
65						70					75				80
Arg	Gly	Leu	Ala	Lys	Ala	Lys	Pro	Glu	Ala	Ser	Phe	Gln	Val	Trp	Asn
				85					90					95	
Lys	Asp	Ser	Ser	Ser	Lys	Asn	Leu	Ile	Pro	Arg	Leu	Gln	Lys	Ile	Trp
			100					105					110		
Lys	Asn	Tyr	Leu	Ser	Met	Asn	Lys	Tyr	Lys	Val	Ser	Tyr	Lys	Gly	Pro
		115					120					125			
Gly	Pro	Gly	Ile	Lys	Phe	Ser	Ala	Glu	Ala	Leu	Arg	Cys	His	Leu	Arg
	130						135				140				
Asp	His	Val	Asn	Val	Ser	Met	Val	Glu	Val	Thr	Asp	Phe	Pro	Phe	Asn
145						150					155				160
Thr	Ser	Glu	Trp	Glu	Gly	Tyr	Leu	Pro	Lys	Glu	Ser	Ile	Arg	Thr	Lys
				165					170					175	
Ala	Gly	Pro	Trp	Gly	Arg	Cys	Ala	Val	Val	Ser	Ser	Ala	Gly	Ser	Leu
			180					185					190		
Lys	Ser	Ser	Gln	Leu	Gly	Arg	Glu	Ile	Asp	Asp	His	Asp	Ala	Val	Leu
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Arg	Phe	Asn	Gly	Ala	Pro	Thr	Ala	Asn	Phe	Gln	Gln	Asp	Val	Gly	Thr
	210					215					220				
Lys	Thr	Thr	Ile	Arg	Leu	Met	Asn	Ser	Gln	Leu	Val	Thr	Thr	Glu	Lys
225						230					235				240
Arg	Phe	Leu	Lys	Asp	Ser	Leu	Tyr	Asn	Glu	Gly	Ile	Leu	Ile	Val	Trp
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Asp	Pro	Ser	Val	Tyr	His	Ser	Asp	Ile	Pro	Lys	Trp	Tyr	Gln	Asn	Pro
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Asp	Tyr	Asn	Phe	Phe	Asn	Asn	Tyr	Lys	Thr	Tyr	Arg	Lys	Leu	His	Pro
	275						280					285			
Asn	Gln	Pro	Phe	Tyr	Ile	Leu	Lys	Pro	Gln	Met	Pro	Trp	Glu	Leu	Trp
	290					295					300				
Asp	Ile	Leu	Gln	Glu	Ile	Ser	Pro	Glu	Glu	Ile	Gln	Pro	Asn	Pro	Pro
305						310					315				320
Ser	Ser	Gly	Met	Leu	Gly	Ile	Ile	Ile	Met	Met	Thr	Leu	Cys	Asp	Gln
			325						330					335	
Val	Asp	Ile	Tyr	Glu	Phe	Leu	Pro	Ser	Lys	Arg	Lys	Thr	Asp	Val	Cys
			340					345					350		
Tyr	Tyr	Tyr	Gln	Lys	Phe	Phe	Asp	Ser	Ala	Cys	Thr	Met	Gly	Ala	Tyr
		355					360					365			
His	Pro	Leu	Leu	Tyr	Glu	Lys	Asn	Leu	Val	Lys	His	Leu	Asn	Gln	Gly

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Thr Asp Glu Asp Ile Tyr Leu Leu Gly Lys Ala Thr Leu Pro Gly Phe  
 385 390 395 400

Arg Thr Ile His Cys  
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<210> 125  
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 <212> PRT  
 <213> Homo sapiens

<220>  
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<400> 125

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 20 25 30

Leu Arg Val Ala Ala Ala Thr Asn Arg Val Val Ala Pro Thr Pro Gly  
 35 40 45

Pro Gly Thr Pro Ala Glu Arg His Ala Asp Gly Leu Ala Leu Ala Leu  
 50 55 60

Glu Pro Ala Leu Ala Ser Pro Ala Gly Ala Ala Asn Phe Leu Ala Met  
 65 70 75 80

Val Asp Asn Leu Gln Gly Asp Ser Gly Arg Gly Tyr Tyr Leu Glu Met  
 85 90 95

Leu Ile Gly Thr Pro Pro Gln Lys Leu Gln Ile Leu Val Asp Thr Gly  
 100 105 110

Ser Ser Asn Phe Ala Val Ala Gly Thr Pro His Ser Tyr Ile Asp Thr  
 115 120 125

Tyr Phe Asp Thr Glu Arg Ser Ser Thr Tyr Arg Ser Lys Gly Phe Asp  
 130 135 140

Val Thr Val Lys Tyr Thr Gln Gly Ser Trp Thr Gly Phe Val Gly Glu  
 145 150 155 160

Asp Leu Val Thr Ile Pro Lys Gly Phe Asn Thr Ser Phe Leu Val Asn  
 165 170 175

Ile Ala Thr Ile Phe Glu Ser Glu Asn Phe Phe Leu Pro Gly Ile Lys  
 180 185 190

Trp Asn Gly Ile Leu Gly Leu Ala Tyr Ala Thr Leu Ala Lys Pro Ser  
 195 200 205

Ser Ser Leu Glu Thr Phe Phe Asp Ser Leu Val Thr Gln Ala Asn Ile  
 210 215 220

Pro Asn Val Phe Ser Met Gln Met Cys Gly Ala Gly Leu Pro Val Ala  
 225 230 235 240

Gly Ser Gly Thr Asn Gly Gly Ser Leu Val Leu Gly Gly Ile Glu Pro  
245 250 255

Ser Leu Tyr Lys Gly Asp Ile Trp Tyr Thr Pro Ile Lys Glu Glu Trp  
260 265 270

Tyr Tyr Gln Ile Glu Ile Leu Lys Leu Glu Ile Gly Gly Gln Ser Leu  
275 280 285

Asn Leu Asp Cys Arg Glu Tyr Asn Ala Asp Lys Ala Ile Val Asp Ser  
290 295 300

Gly Thr Thr Leu Leu Arg Leu Pro Gln Lys Val Phe Asp Ala Val Val  
305 310 315 320

Glu Ala Val Ala Arg Ala Ser Leu Ile Pro Glu Phe Ser Asp Gly Phe  
325 330 335

Trp Thr Gly Ser Gln Leu Ala Cys Trp Thr Asn Ser Glu Thr Pro Trp  
340 345 350

Ser Tyr Phe Pro Lys Ile Ser Ile Tyr Leu Arg Asp Glu Asn Ser Ser  
355 360 365

Arg Ser Phe Arg Ile Thr Ile Leu Pro Gln Leu Tyr Ile Gln Pro Met  
370 375 380

Met Gly Ala Gly Leu Asn Tyr Glu Cys Tyr Arg Phe Gly Ile Ser Pro  
385 390 395 400

Ser Thr Asn Ala Leu Val Ile Gly Ala Thr Val Met Glu Gly Phe Tyr  
405 410 415

Val Ile Phe Asp Arg Ala Gln Lys Arg Val Gly Phe Ala Ala Ser Pro  
420 425 430

Cys Ala Glu Ile Ala Gly Ala Ala Val Ser Glu Ile Ser Gly Pro Phe  
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Ser Thr Glu Asp Val Ala Ser Asn Cys Val Pro Ala Gln Ser Leu Ser  
450 455 460

Glu Pro Ile Leu Trp Ile Val Ser Tyr Ala Leu Met Ser Val Cys Gly  
465 470 475 480

Ala Ile Leu Leu Val Leu Ile Val Leu Leu Leu Pro Phe Arg Cys  
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Val Arg His Arg Trp Lys  
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<210> 126

<211> 255

<212> PRT

<213> Homo sapiens

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<400> 126

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Glu Leu Arg Asn Asn Leu Arg Ser Ile Glu Trp Asp Leu Glu Asp Leu
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Asp Glu Thr Ile Ser Ile Val Glu Ala Asn Pro Arg Lys Phe Asn Leu
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Asp Ala Thr Glu Leu Ser Ile Arg Lys Ala Phe Ile Thr Ser Thr Arg
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Gln Val Val Arg Asp Met Lys Asp Gln Met Ser Thr Ser Ser Val Gln
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Ala Leu Ala Glu Arg Lys Asn Arg Gln Ala Leu Leu Gly Asp Ser Gly
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Ser Gln Asn Trp Ser Thr Gly Thr Thr Asp Lys Tyr Gly Arg Leu Asp
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Arg Glu Leu Gln Arg Ala Asn Ser His Phe Ile Glu Glu Gln Gln Ala
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Gln Gln Gln Leu Ile Val Glu Gln Gln Asp Glu Gln Leu Glu Leu Val
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Ser Gly Ser Ile Gly Val Leu Lys Asn Met Ser Gln Arg Ile Gly Gly
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Glu Leu Glu Glu Gln Ala Val Met Leu Glu Asp Phe Ser His Glu Leu
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Glu Ser Thr Gln Ser Arg Leu Asp Asn Val Met Lys Lys Leu Ala Lys
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Val Ser His Met Thr Ser Asp Arg Arg Gln Trp Cys Ala Ile Ala Ile
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<223> Description of Artificial Sequence: nucleic acid  
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<210> 128

<211> 575

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: recombinant fusion protein sequence

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Gly Ile Ile Pro Val Glu Glu Glu Asn Pro Asp Phe Trp Asn Arg Glu  
20 25 30

Ala Ala Glu Ala Leu Gly Ala Ala Lys Lys Leu Gln Pro Ala Gln Thr  
35 40 45

Ala Ala Lys Asn Leu Ile Ile Phe Leu Gly Asp Gly Met Gly Val Ser  
50 55 60

Thr Val Thr Ala Ala Arg Ile Leu Lys Gly Gln Lys Lys Asp Lys Leu  
65 70 75 80

Gly Pro Glu Ile Pro Leu Ala Met Asp Arg Phe Pro Tyr Val Ala Leu  
85 90 95

Ser Lys Thr Tyr Asn Val Asp Lys His Val Pro Asp Ser Gly Ala Thr  
100 105 110

Ala Thr Ala Tyr Leu Cys Gly Val Lys Gly Asn Phe Gln Thr Ile Gly  
115 120 125

Leu Ser Ala Ala Ala Arg Phe Asn Gln Cys Asn Thr Thr Arg Gly Asn  
130 135 140



Glu Val Ile Ser Val Met Asn Arg Ala Lys Lys Ala Gly Lys Ser Val  
 145 150 155 160  
 Gly Val Val Thr Thr Thr Arg Val Gln His Ala Ser Pro Ala Gly Thr  
 165 170 175  
 Tyr Ala His Thr Val Asn Arg Asn Trp Tyr Ser Asp Ala Asp Val Pro  
 180 185 190  
 Ala Ser Ala Arg Gln Glu Gly Cys Gln Asp Ile Ala Thr Gln Leu Ile  
 195 200 205  
 Ser Asn Met Asp Ile Asp Val Ile Leu Gly Gly Gly Arg Lys Tyr Met  
 210 215 220  
 Phe Pro Met Gly Thr Pro Asp Pro Glu Tyr Pro Asp Asp Tyr Ser Gln  
 225 230 235 240  
 Gly Gly Thr Arg Leu Asp Gly Lys Asn Leu Val Gln Glu Trp Leu Ala  
 245 250 255  
 Lys Arg Gln Gly Ala Arg Tyr Val Trp Asn Arg Thr Glu Leu Met Gln  
 260 265 270  
 Ala Ser Leu Asp Pro Ser Val Thr His Leu Met Gly Leu Phe Glu Pro  
 275 280 285  
 Gly Asp Met Lys Tyr Glu Ile His Arg Asp Ser Thr Leu Asp Pro Ser  
 290 295 300  
 Leu Met Glu Met Thr Glu Ala Ala Leu Arg Leu Leu Ser Arg Asn Pro  
 305 310 315 320  
 Arg Gly Phe Phe Leu Phe Val Glu Gly Gly Arg Ile Asp His Gly His  
 325 330 335  
 His Glu Ser Arg Ala Tyr Arg Ala Leu Thr Glu Thr Ile Met Phe Asp  
 340 345 350  
 Asp Ala Ile Glu Arg Ala Gly Gln Leu Thr Ser Glu Glu Asp Thr Leu  
 355 360 365  
 Ser Leu Val Thr Ala Asp His Ser His Val Phe Ser Phe Gly Gly Tyr  
 370 375 380  
 Pro Leu Arg Gly Ser Ser Ile Phe Gly Leu Ala Pro Gly Lys Ala Arg  
 385 390 395 400  
 Asp Arg Lys Ala Tyr Thr Val Leu Leu Tyr Gly Asn Gly Pro Gly Tyr  
 405 410 415  
 Val Leu Lys Asp Gly Ala Arg Pro Asp Val Thr Glu Ser Glu Ser Gly  
 420 425 430  
 Ser Pro Glu Tyr Arg Gln Gln Ser Ala Val Pro Leu Asp Glu Glu Thr  
 435 440 445  
 His Ala Gly Glu Asp Val Ala Val Phe Ala Arg Gly Pro Gln Ala His  
 450 455 460  
 Leu Val His Gly Val Gln Glu Gln Thr Phe Ile Ala His Val Met Ala  
 465 470 475 480

Phe	Ala	Ala	Cys	Leu	Glu	Pro	Tyr	Thr	Ala	Cys	Asp	Leu	Ala	Pro	Pro
				485					490					495	
Ala	Gly	Thr	Thr	Asp	Ala	Ala	His	Pro	Gly	Asn	Tyr	Glu	Val	Glu	Pro
			500					505					510		
Arg	Arg	Ala	Leu	Tyr	Val	Glu	Gly	Glu	Arg	Gly	Phe	Phe	Tyr	Thr	Pro
		515					520					525			
Lys	Ala	Leu	Tyr	Leu	Val	Glu	Gly	Glu	Arg	Gly	Phe	Phe	Tyr	Thr	Ser
	530					535					540				
Leu	Met	Thr	Ile	Ala	Tyr	Val	Met	Ala	Ala	Ile	Cys	Ala	Leu	Phe	Met
545					550					555					560
Leu	Pro	Leu	Cys	Leu	Met	Val	Asp	Tyr	Lys	Asp	Asp	Asp	Asp	Lys	
				565					570					575	

<210> 129  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: synthetic  
 peptide sequence

<400> 129  
 Lys Met Asp Ala Glu  
 1 5

<210> 130  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: synthetic  
 peptide sequence

<400> 130  
 Gly Arg Arg Gly Ser  
 1 5

<210> 131  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: synthetic  
 peptide sequence

<400> 131  
 Val Glu Ala Asn Tyr Glu Val Glu Gly Glu  
 1 5 10

<210> 132  
 <211> 10

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 132  
Val Glu Ala Asn Tyr Ala Val Glu Gly Glu  
1 5 10

<210> 133  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 133  
Lys Thr Ile Asn Leu Glu Val Glu Pro Ser  
1 5 10

<210> 134  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>  
<221> MOD\_RES  
<222> (5)  
<223> Nle

<400> 134  
Lys Thr Ile Asn Xaa Glu Val Glu Pro Ser  
1 5 10

<210> 135  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> MOD\_RES  
<222> (5)  
<223> Nle

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 135  
Lys Thr Ile Asn Xaa Glu Val Asp Pro Ser

1

5

10

<210> 136  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> MOD\_RES  
<222> (5)  
<223> Nle

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 136  
Lys Thr Ile Asn Xaa Asp Val Asp Pro Ser  
1 5 10

<210> 137  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 137  
Lys Thr Ile Ser Leu Asp Val Glu Pro Ser  
1 5 10

<210> 138  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 138  
Lys Thr Ile Ser Leu Asp Val Asp Pro Ser  
1 5 10

<210> 139  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 139  
Lys Met Asp Ala  
1

<210> 140  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 140  
Ser Tyr Glu Val  
1

<210> 141  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 141  
Ser Glu Val Ser Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 142  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 142  
Asn Leu Asp Ala  
1

<210> 143  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 143  
Ser Glu Val Ser Tyr Asp Ala Glu Phe Arg  
1 5 10

<210> 144  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic

peptide sequence

<400> 144

Ser Glu Val Ser Tyr Glu Ala Glu Phe Arg  
1 5 10

<210> 145

<211> 25

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 145

Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser  
1 5 10 15

Glu Val Ser Tyr Glu Val Glu Phe Arg  
20 25

<210> 146

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 146

Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Val Ser Tyr Glu  
1 5 10 15

Val Glu Phe Arg  
20

<210> 147

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 147

Lys Thr Glu Glu Ile Ser Glu Val Ser Tyr Glu Val Glu Phe Arg  
1 5 10 15

<210> 148

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 148

Thr Glu Val Ser Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 149

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 149

Ser Glu Val Asp Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 150

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 150

Thr Glu Val Asp Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 151

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 151

Thr Glu Ile Asp Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 152

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 152

Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 153

<211> 10

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 153  
Ser Glu Ile Asp Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 154  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> (11)  
<223> Xaa=tryptophan

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 154  
Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
1 5 10

<210> 155  
<211> 18  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> (16)  
<223> Xaa=tryptophan

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 155  
Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa  
1 5 10 15

Lys Lys

<210> 156  
<211> 23  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> (21)  
<223> Xaa=tryptophan

<220>



<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 156

Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu Val  
1 5 10 15

Glu Phe Arg Xaa Lys Lys  
20

<210> 157

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>

<221> SITE

<222> (26)

<223> Xaa=tryptophan

<400> 157

Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser  
1 5 10 15

Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
20 25

<210> 158

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<221> SITE

<222> (11)

<223> Xaa=tryptophan

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 158

Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
1 5 10

<210> 159

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<220>

<221> SITE

<222> (16)  
<223> Xaa=tryptophan

<400> 159  
Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg  
1 5 10 15

Xaa Lys Lys

<210> 160  
<211> 23  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> (21)  
<223> Xaa=tryptophan

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide

<400> 160  
Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr  
1 5 10 15

Glu Val Glu Phe Arg Xaa Lys Lys  
20

<210> 161  
<211> 28  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> (26)  
<223> Xaa=tryptophan

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 161  
Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile  
1 5 10 15

Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
20 25

<210> 162  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE

<222> (11)  
<223> Xaa=oregon green

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 162  
Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
1 5 10

<210> 163  
<211> 18  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> (16)  
<223> Xaa=oregon green

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 163  
Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa  
1 5 10 15

Lys Lys

<210> 164  
<211> 23  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> (21)  
<223> Xaa=oregon green

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 164  
Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu  
1 5 10 15

Val Glu Phe Arg Xaa Lys Lys  
20

<210> 165  
<211> 28  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE

<222> (26)

<223> Xaa=oregon green

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 165

Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser  
1 5 10 15

Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
20 25

<210> 166

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<221> SITE

<222> (11)

<223> Xaa=oregon green

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 166

Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
1 5 10

<210> 167

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<221> SITE

<222> (16)

<223> Xaa=oregon green

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 167

Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg  
1 5 10 15

Xaa Lys Lys

<210> 168

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<221> SITE  
<222> (21)  
<223> Xaa=oregon green

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 168  
Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr  
1 5 10 15  
Glu Val Glu Phe Arg Xaa Lys Lys  
20

<210> 169  
<211> 28  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> SITE  
<222> (26)  
<223> Xaa=oregon green

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 169  
Thr Arg Pro Gly Ser Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile  
1 5 10 15  
Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Xaa Lys Lys  
20 25

<210> 170  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 170  
Ser Glu Val Asn Tyr Glu Val Glu Phe Arg  
1 5 10

<210> 171  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
primer for site-directed mutagenesis of APP

<400> 171  
gagatctctg aaattagtta tgaagtagaa ttccgacatg actcagg

<210> 172  
<211> 48  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
primer for site-directed mutagenesis of APP

<400> 172  
tgagtcacgt cggaattcta cttcataact aatttcagag atctcctc 48

<210> 173  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
primer for site-directed mutagenesis of APP

<400> 173  
gagatctctg aaagtagtta tgaagtagaa ttccgacatg actcagg 47

<210> 174  
<211> 48  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
primer for site-directed mutagenesis of APP

<400> 174  
tgagtcacgt cggaattcta cttcataact actttcagag atctcctc 48

<210> 175  
<211> 47  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
primer for site-directed mutagenesis of APP

<400> 175  
gagatctctg aaattagtta tgaagcagaa ttccgacatg actcagg 47

<210> 176  
<211> 48  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
primer for site-directed mutagenesis of APP

<400> 176  
tgagtcacgt cggaattctg cttcataact aatttcagag atctcctc 48

<210> 177  
<211> 5  
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 177

Val Ser Tyr Glu Val  
1 5

<210> 178

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 178

Val Ser Tyr Asp Ala  
1 5

<210> 179

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 179

Ile Ser Tyr Glu Val  
1 5

<210> 180

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 180

Val Lys Met Asp Ala  
1 5

<210> 181

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic  
primer for generating mutant construct named  
MBPC125-SYEV

<400> 181  
gacatctctg aagtgagtta ttaggcagaa ttccgacatg actcagg 47

<210> 182  
<211> 48  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
primer for generating mutant construct named  
MBPC125-SYEV

<400> 182  
tgagtcatgt cggaattctg cctaataact cacttcagag atctcctc 48

<210> 183  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 183  
Lys Lys Ser Tyr Glu Val  
1 5

<210> 184  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 184  
Val Glu Ala Asn Tyr Glu Val Glu Gly Glu  
1 5 10

<210> 185  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: synthetic  
peptide sequence

<400> 185  
Val Glu Ala Asn Tyr Ala Val Glu Gly Glu  
1 5 10

<210> 186  
<211> 8  
<212> PRT  
<213> Artificial Sequence



<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 186

Asp Tyr Lys Asp Asp Asp Asp Lys  
1 5

<210> 187

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 187

Ser Tyr Glu Ala  
1

<210> 188

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 188

Ser Tyr Ala Val  
1

<210> 189

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic peptide sequence

<400> 189

Val Ser Tyr Glu Ala  
1 5

<210> 190

<211> 13

<212> PRT

<213> synthetic peptide sequence

<400> 190

Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Trp Lys Lys  
1 5 10

<210> 191

<211> 23

<212> PRT

<213> synthetic peptide sequence

<400> 191

Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu  
1 5 10 15

Val Glu Phe Arg Trp Lys Lys  
20

<210> 192

<211> 15

<212> PRT

<213> synthetic peptide sequence

<220>

<221> SITE

<222> (1)..(1)

<223> amino acid at position 1 is biotinylated

<220>

<221> SITE

<222> (14)..(14)

<223> cys at position 14 is derivatized with an oregon green

<400> 192

Lys Glu Ile Ser Glu Ile Ser Tyr Glu Val Glu Phe Arg Lys Lys  
1 5 10 15

<210> 193

<211> 22

<212> PRT

<213> synthetic peptide sequence

<220>

<221> SITE

<222> (1)..(1)

<223> amino acid at position 1 is biotinylated

<220>

<221> SITE

<222> (21)..(21)

<223> cys at position 21 is derivatized with an oregon green

<400> 193

Gly Leu Thr Asn Ile Lys Thr Glu Glu Ile Ser Glu Ile Ser Tyr Glu  
1 5 10 15

Val Glu Phe Arg Lys Lys  
20

<210> 194

<211> 6806

<212> DNA

<213> fusion protein comprising a maltose binding protein with 125 amino acids from APP C-terminus.

<400> 194

cgcacacccat cgaatggcgc aaaacctttc gcggtatggc atgatagcgc ccggaagaga	60
gtcaattcag ggtggtgaat gtgaaaccag taacgttata cgatgtcgca gagtatgccg	120
gtgtctctta tcagaccgtt tccgcgctgg tgaaccaggc cagccacgtt tctgcgaaaa	180
cgcgggaaaa agtggaagcg gcgatggcgg agctgaatta cattccaac cgcgtggcac	240
aacaactggc gggcaaacag tcgttgetga ttggcggtgc cacctccagt ctggccctgc	300
acgcgccgtc gcaaattgtc gcggcgatta aatctcgcgc cgatcaactg ggtgccagcg	360
tggtggtgtc gatggtagaa cgaagcggcg tcgaagcctg taaagcggcg gtgcacaatc	420
ttctcgcgca acgcgtcagt gggctgatca ttaactatcc gctggatgac caggatgcc	480
ttgctgtgga agctgcctgc actaatgttc cggcggttatt tcttgatgtc tctgaccaga	540
caccatcaa cagtattatt ttctcccatg aagacggtac gcgactgggc gtggagcatc	600

tggtcgcatt gggtcaccag caaatcgcg tgttagcggg cccattaagt tctgtctcgg 660  
cgcgctctgcg tctggctggc tggcataaat atctcactcg caatcaaatt cagccgatag 720  
cggaacggga aggcgactgg agtgccatgt ccggttttca acaaaccatg caaatgctga 780  
atgagggcat cgttcccact gcgatgctgg ttgccaacga tcagatggcg ctggggcga 840  
tgcgcgccat taccgagtcc gggctgcgcg ttggtgcgga tatctcggtg gtgggatacg 900  
acgataccga agacagctca tggtatatcc cgccgttaac caccatcaaa caggattttc 960  
gcctgctggg gcaaaccagc gtggaccgct tgctgcaact ctctcagggc caggcggtga 1020  
agggcaatca gctgttgccc gtctcactgg tgaaaagaaa aaccaccctg gcgcccata 1080  
cgcaaaccgc ctctccccgc gcgttgcccg attcattaat gcagctggca cgacaggttt 1140  
cccgactgga aagcgggcag tgagcgcaac gcaattaatg tgagttagct cactcattag 1200  
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<222> (10)..(10)

<223> amino acid at position 10 has been derivatized with Bodipy FL

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